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SYED, FARHAN M	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	**Application No.** 10/682,252	**Applicant(s)** GHATARE, SANJAY P.	
	Examiner FARHAN M. SYED	**Art Unit** 2165	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 March 2009*.

2a)□ This action is **FINAL**. 2b)☒ This action is non-final.

3)□ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-37* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)□ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-37* is/are rejected.

7)□ Claim(s) _____ is/are objected to.

8)□ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)□ The specification is objected to by the Examiner.

10)□ The drawing(s) filed on _____ is/are: a)□ accepted or b)□ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)□ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)□ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)□ All b)□ Some * c)□ None of:

1.□ Certified copies of the priority documents have been received.

2.□ Certified copies of the priority documents have been received in Application No. _____.

3.□ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) □ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) □ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.

4) □ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .

5) □ Notice of Informal Patent Application

6) □ Other: _____.

DETAILED ACTION

1. Claims 1-37, filed 23 March 2009, are pending. The Examiner acknowledges amended claims 1, 13, 21, 24 and 31. No claims were cancelled.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 23 March 2009 has been entered.

Response to Remarks/Argument

3. Applicant's arguments with respect to claims 1-37 have been considered but are moot in view of the new ground(s) of rejection.

The Examiner's rejections of the claims, now set forth are in light of the applicant's arguments against the art applied, But applied in the modified position therefore, the arguments are deemed moot.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1, 10-13, 21, 24, 26-28, 31, and 33-35 are rejected under 35 U.S.C. 103(a) as being anticipated by Mullins et al (U.S. Patent No. 6,985,912 and known hereinafter as Mullins)(previously presented) in view of a non-patent literature titled "An enterprise directory solution with DB2" by S.S.B. Shi, et al, IBM Systems Journal, vol. 39, No. 2, 2000 (known hereinafter as IBM System)(previously presented) and in further view of Lee, et al (U.S. 2002/0143943, published 02 October 2002, and known hereinafter as Lee)(IDS Submission 17 April 2007).

As per claims 1, 13, and 21, Mullins teaches a method of translating between data formats, comprising (i.e. *"It is an additional object of the present invention to provide easy translations between databases and applications having a variety of different formats or data store models."* The preceding text clearly indicates that translating (i.e. translations) between data formats (i.e. variety of different formats or data store models).)(Column 4, lines 48-51): receiving a request to access data (i.e. *"The present invention is based in part on U.S. Pat. No. 5,857,197, (incorporated herein by reference), and provides a mapping system for handling data requested by an object software application model in a manner that is compatible with relational data stores."* The preceding text clearly indicates that a request to access data (i.e. data requested by an object software application model). It is clearly anticipated that the method of receiving occurs in the method of the data being requested (i.e. for data to be requested, as taught in the prior art, it must receive a request).)(Column 7, lines 27-31) for one or more attributes (According to the Microsoft Dictionary 5th Ed., an attribute in a database record, the name or structure of a field. For example, the files LASTNAME, FIRSTNAME, and PHONE would be attributes of each record in a PHONELIST database. Therefore, an ordinary person skilled in the art understands that attributes are stored in a data store (i.e. database), thus if an ordinary person skilled in the art accesses data in the database, it clearly anticipates that an attribute is also accessed, or at the very least referenced.), said request includes said attributes in a first data format (i.e. *"In another embodiment the invention provides a system for mapping from a first database format to a second database format, or from one database to another database of the same type, as a way for transferring data or synchronizing data sources. The system includes: data in the first database format stored in the system; rules for translating from the first format to the second format stored as a separate structure from the data; and means for applying the rules to the data to obtain the second format."* The preceding text clearly indicates that the first database format includes attributes in the first data format. That is the attributes that are stored in the data store (i.e. database), the request (i.e. data requested) includes attributes in the first data format (i.e. first database format).)(Column 13, lines 9-18) and a filter (i.e. *" This allows more developer control as to how datasets are exchanged,* ***filtered*** *and/or validated between a first data source and a second data source."* The preceding text clearly indicates that in O/R mapping, developers may use filters to control how datasets are exchanged.)(column 14, lines 55-65) for accessing the data (The use of a database clearly anticipates accessing the data.)(column 1; lines 45-50) of the attributes (*i.e. "data in the first database format stored in the system…"* The preceding text clearly indicates that attributes are part of data stored in the first database.)(column 13, lines 10-20); accessing a mapping catalog customizable for a relational database schema (i.e. *"CocoAdmin provides a mechanism for the export of maps defined against a database into a modifiable XML format." "Once the XML file is written, it can be edited using a standard text editor or XML editor, and can be modified to reflect map customization requirements."* The preceding text clearly indicates that accessing a mapping catalog customizable (i.e. map customization requirements) for a relational database schema (i.e. database).)(Column 8, lines 15-16; lines 23-25), said mapping catalog identifies one or more portions of one or more tables in a relational database that stores said data for said one or more attributes (i.e. *"First, let us assume two databases: a first database (B1) and a second database (B2) wherein B1 and B2 have the different corresponding data map schemas (S1) and (S2), respectively, and wherein S1 and S2 have the two corresponding schema repositories (R1 and R2) that include maps defining the structure (schema) of the database, Java object information (Java object model and any relationships between Java objects of the Java object model, or defining both the database and Java object information."* The preceding text clearly indicates that mapping catalog (i.e. data map schema) identifies one or more portions of one or more tables in a relational database (i.e. corresponding schema repositories) that store said data for said one or more attributes (i.e. include maps defining the structure of the database, Java object information).)(Column 13, lines 31-39) and a classification for each of the one or more attributes, said relational database corresponds to said relational database schema (i.e. *"In a preferred object of the present invention, a software programming module (or modules) can automatically generate object source code from at least one database schema map, at least one object programming application schema, or from a combination of at least one database schema map and at least one object programming application schema. The code generated for the application can be set to delegate database access and SQL string generation to the runtime library repository instead of including within the application the more limiting code for non-delegated database access by the application. This arrangement allows the mapping information and associated metadata to be easily accessed, changed and used to convert thousands of lines of code in a data object, as needed. The mapping information can be used to map from objects to relational models or vice versa and generate appropriate code."* The preceding text clearly indicates that a relational database schema is a type of database schema and that and that the mapping catalog that identifies one or more portions of one or more tables in a relational database is an instance of mapping information used to map objects from objects to relational models, where relational models are instances of relational databases, which contain one or more tables. *" M1 is a map (or maps) defining the database schema S1 of R1 including map (or maps) with definitions for relationships between Java objects corresponding to the data of B1, and M2 is a map (or maps) defining* *the database schema S2 of R2 including map (or maps) with definitions for relationships between Java objects corresponding to the data of B2."* The preceding text clearly indicates that classification (i.e. defining) for each of the one or more attribute, said relational database corresponds to said relational database schema (i.e. database schema S1 of R1 and database schema S2 of R2.)(Column 6, lines 10-25; See also column 13, lines 40-47); translating at least a portion of said request from said first data format to a form suitable for said relational database (i.e. *"...rules for translating from the first format to the second format stored as a separate structure from the data; and means for applying the rules to the data to obtain the second format."* The preceding text clearly indicates that translating at least a portion of said request from said first data format (i.e. translating from the first format) to a form suitable for said relational database (i.e. second format stored in a separate structure).)(Column 13, lines 14-16), said step of translating is based on said classification of each attribute (i.e. *"There are distinctive advantages when using a dynamic mapping layer where a java object provides translation by mapping such objects of a first data source (relational or object database) and also mapping such object to an XML or other second format data source. This allows more developer control as to how datasets are exchanged, filtered and/or validated between a first data source and a second data source."* The preceding text clearly indicates that translating is based on mapping catalog, where the mapping catalog is the dynamic mapping layer that maps the first and second data resource.)(Column 14, lines 58-65) and the filter; and providing said translated request to said relational database (i.e. *"The function of such a translation layer (generally called the O/R layer in CocoBase documentation, for example) is to translate object-based queries for the data into queries that JDBC can, translate into queries for a relational database."* The preceding text clearly indicates that the translated request is an instance of translated object-based queries.)(Column 15, lines 51-55).

Mullins does not explicitly teach determining a relational database from a plurality of data stores to service said request, wherein the plurality of data stores comprises the relational database and at least one LDAP directory.

IBM Systems teaches determining a relational database from a plurality of data stores to service said request, wherein the plurality of data stores comprises the relational database and at least one LDAP directory (i.e. *"...this paper discusses an* ***implementation of LDAP that uses the IBM Database 2 relational database as the data store*** *and query engine to meet the directory service requirement. Performance analysis is provided to show that a relational database can be used to successfully meet the performance and scale needs of an LDAP directory while remaining secure and competitive with other vendor implementation."*)(Abstract).

It would have been obvious to a person of ordinary skill in the art at the time of Applicant's invention to modify the teachings of Mullins with the teachings of IBM Systems to include determining a relational database from a plurality of data stores to service said request, wherein the plurality of data stores comprises the relational database and at least one LDAP directory with the motivation to create system for more efficient access and manipulation of data stores, systems having the flexibility and dynamic capability to attach data from a database to map as objects and having the ability to map one or more databases to various objects in real time. (Mullins, column 3, lines 45-49).

The combination of Mullins and IBM System do not explicitly teach wherein determining the relational database from the plurality of data stores comprises comparing the filter for accessing the data of the attributes to a partitioning expression for each of the data stores.

Lee teaches wherein determining the relational database from the plurality of data stores (i.e. "...Directory 36 can implement other protocols or can be other types of data repositories (e.g. relational database using SQL, etc.). Many variations of the system of FIG. 1 can be used with the present invention.")(paragraph [0118]) comprises comparing the filter (i.e. "With dynamic group management features, users can be automatically added or removed if they meet the criteria specified by the LDAP filter.")(paragraph [0108-0113]) for accessing the data of the attributes to a partitioning expression for each of the data stores (i.e. "the Identity System includes partition support for fat and flat tree directories using filters. From a configuration page, an attribute can be configured to be accessible (read, modify, etc.,) based on a two part filter. The first component in the filter identifies a top node in the directory. The filter will only apply to those entities at or below that top node. The second component of the filter is an LDAP filter which defines who can access the attribute. This two component filter can be applied on an attribute by attribute basis.")(paragraphs [0108-0113], [0148-0159]).

It would have been obvious to a person of ordinary skill in the art at the time of Applicant's invention to modify the teachings of Mullins with the teachings of IBM Systems and with the further teachings of Lee to include wherein determining the relational database from the plurality of data stores comprises comparing the filter for accessing the data of the attributes to a partitioning expression for each of the data stores with the motivation to create system for more efficient access and manipulation of data stores, systems having the flexibility and dynamic capability to attach data from a database to map as objects and having the ability to map one or more databases to various objects in real time. (Mullins, column 3, lines 45-49).

As per claim 10, Mullins teaches a method wherein said step of translating includes mapping said one or more attributes to said relational database (i.e. *"Clicking Next> in the Generic EJB Entity Bean CMP--All Parts drop down wizards of CocoAdmin will present a user with a list of attributes which comprise the maps and any references (e.g. foreign keys) to other* *maps that may be navigated by CocoBase. For example, in a e-commerce shopping cart example, a Customer map, which is generated against a selected relational database connection, might be selected, and the PkgName: field might contain the name testpkg so the resulting Java code will be generated to a package and directory named testpkg."* The preceding text clearly indicates that one or more attribute is a list of attributes and are mapped to a relational database.)(Column 11, lines 4-13), translating sub filters of said request into SELECT statements, and combining said SELECT statements (i.e. *"Once the above connections of CocoBase are established, any accesses to the database B1, such as: connB1.insert(...) will have the plug-in access B2 and replicate the operation that was conducted on database B1." "The same mechanism described above can be used to replicate the result of other database operations (e.g. update, select, delete, etc.) that are performed against B1."* Although the previous text illustrates the use of an insert statement, it is inherent that a select statement could also be used, since both are database operations.)(Column 17, lines 43-51); and said step of providing includes accessing a set of primary key values for a master table in said relational database based on said combined SELECT statements and, for each primary key value of said set, accessing requested attributes from said request (i.e. *"The same mechanism described above can be used to replicate the result of other database operations (e.g. update, select, delete, etc.) that are performed against B1."* The preceding text clearly indicates that translating includes delete, insert, and update statements, which are all database operations.)(Column 17, lines 49-51).

As per claim 11, Mullins teaches a method wherein said step of translating includes creating INSERT statements based on said mapping catalog (i.e. *"Suppose that the system uses CocoBase (commercially available object to relational mapping tool having a mapping repository capability) and a connection of CocoBase with B1 is established as follows..." "Once the above connections of CocoBase are established, any accesses to the database B1, such as: connB1.insert(. . .) will have the plug-in access B2 and replicate the operation that was conducted on database B1."* The previous text clearly indicates that a mapping catalog is a mapping repository and that translating includes creating an insert statement, which is illustrated as connB1.insert(…).)(Column 17, lines 14-17).

As per claim 12, Mullins teaches a method wherein said step of translating includes creating one or more DELETE statements, one or more INSERT statements and one or more UPDATE statements based on said mapping catalog (i.e. *"The same mechanism described above can be used to replicate the result of other database operations (e.g. update, select, delete, etc.) that are performed against B1."* The preceding text clearly indicates that translating includes delete, insert, and update statements, which are all database operations.)(Column 17, lines 49-51).

As per claims 24 and 31, Mullins teaches a system for translating between data formats, comprising: a data source interface in communication with business logic (i.e. *"The present invention is based in part on U.S. Pat. No. 5,857,197, (incorporated herein by reference), and provides a mapping system for handling data requested by an object software application model in a manner that is compatible with relational data stores."* The preceding text clearly indicates that the request from an object software application model is the business logic, and the data source interface is contained within the object software application.)(Column 7, lines 27-31); a mapping catalog identifying one or more portions of one or more tables in a relational database that stores data for one or more attributes and a classification for each of the one or more attributes (i.e. *"A dynamic repository-based mapping system is used."* The preceding text clearly indicates that a mapping catalog is the dynamic repository-based mapping system.)(Column 7, lines 31-32); and a translation module receiving access request information from said data source interface and mapping information from said mapping catalog, said access request information pertains to data for the one or more attributes, said translation module translates said request information from a first form to a second form suitable for the relational database based on said mapping information from said mapping catalog including said classification (i.e. *"In one embodiment of the system of the present invention a translation layer translates between an object application (or a potential object application, i.e. an object model) to at least one relational database which includes data entries organized as tables and records."* The preceding text clearly indicates that a translation module is the translation layer.)(Column 15, lines 25-28).

Mullins does not explicitly teach determining a relational database from a plurality of data stores to service said request, wherein the plurality of data stores comprises the relational database and at least one LDAP directory.

IBM Systems teaches determining a relational database from a plurality of data stores to service said request, wherein the plurality of data stores comprises the relational database and at least one LDAP directory (i.e. *"...this paper discusses an **implementation of LDAP that uses the IBM Database 2 relational database as the data store** and query engine to meet the directory service requirement. Performance analysis is provided to show that a relational database can be used to successfully meet the performance and scale needs of an LDAP directory while remaining secure and competitive with other vendor implementation."*)(Abstract).

It would have been obvious to a person of ordinary skill in the art at the time of Applicant's invention to modify the teachings of Mullins with the teachings of IBM Systems to include determining a relational database from a plurality of data stores to service said request, wherein the plurality of data stores comprises the relational database and at least one LDAP directory with the motivation to create system for more efficient access and manipulation of data stores, systems having the flexibility and dynamic capability to attach data from a database to map as objects and having the ability to map one or more databases to various objects in real time. (Mullins, column 3, lines 45-49).

The combination of Mullins and IBM System do not explicitly teach wherein determining the relational database from the plurality of data stores comprises comparing the filter for accessing the data of the attributes to a partitioning expression for each of the data stores.

Lee teaches wherein determining the relational database from the plurality of data stores (i.e. "...Directory 36 can implement other protocols or can be other types of data repositories (e.g. relational database using SQL, etc.). Many variations of the system of FIG. 1 can be used with the present invention.")(paragraph [0118]) comprises comparing the filter (i.e. "With dynamic group management features, users can be automatically added or removed if they meet the criteria specified by the LDAP filter.")(paragraph [0108-0113]) for accessing the data of the attributes to a partitioning expression for each of the data stores (i.e. "the Identity System includes partition support for fat and flat tree directories using filters. From a configuration page, an attribute can be configured to be accessible (read, modify, etc.,) based on a two part filter. The first component in the filter identifies a top node in the directory. The filter will only apply to those entities at or below that top node. The second component of the filter is an LDAP filter which defines who can access the attribute. This two component filter can be applied on an attribute by attribute basis.")(paragraphs [0108-0113], [0148-0159]).

It would have been obvious to a person of ordinary skill in the art at the time of Applicant's invention to modify the teachings of Mullins with the teachings of IBM Systems and with the further teachings of Lee to include wherein determining the relational database from the plurality of data stores comprises comparing the filter for accessing the data of the attributes to a partitioning expression for each of the data stores with the motivation to create system for more efficient access and manipulation of data stores, systems having the flexibility and dynamic capability to attach data from a database to map as objects and having the ability to map one or more databases to various objects in real time. (Mullins, column 3, lines 45-49).

As per claims 26 and 33, Mullins teaches a system wherein said mapping catalog identifies one or more portions of one or more tables in said relational database that stores said data for said one or more attributes (i.e. *"Clicking Next> in the Generic EJB Entity Bean CMP--All Parts drop down wizards of CocoAdmin will present a user with a list of attributes which comprise the maps and any references (e.g. foreign keys) to other maps that may be navigated by CocoBase. For example, in a e-commerce shopping cart example, a Customer map, which is generated against a selected relational database connection, might be selected, and the PkgName: field might contain the name testpkg so the resulting Java code will be generated to a package and directory named testpkg. In a subsequent pop-up dialog, the user can add a foreign key reference by clicking on Insert Attribute and filling in the foreign key attribute in the inserted row. Such references can be added automatically for any operation which contains a join across tables of different maps."*)(Column 11, lines 4-17).

As per claims 27 and 34, Mullins teaches a system wherein said translation module provides said translated request information for execution on said relational database (i.e. *"In one embodiment of the system of the present invention a translation layer translates* *between an object application (or a potential object application, i.e. an object model) to at least one relational database which includes data entries organized as tables and records."* The preceding text clearly indicates that the execution is the process of translating between an object application to at least one relational database.)(Column 15, lines 24-28).

As per claims 28 and 35, Mullins teaches a system wherein said translation module receives a result from said relational database, said result is based on said translated request information, said translation module translates said result to said first form (i.e. *"The function of such a translation layer (generally called the O/R layer in CocoBase documentation, for example) is to translate object-based queries for the data into queries that JDBC can, translate into queries for a relational database. In a preferred embodiment, the translation layer can generate an SQL string (or strings) based upon the object-based queries, which can be passed to at least one JDBC, which JDBC can then generate an SQL statement from the SQL string."* The previous text clearly indicates that the result is the SQL string that is translated based on the object-based queries. In additional, an ordinary person skilled in the art understands that when executing a query, that the steps comprise of sending a request to a target resource and in return receives a result from the target resource.)(Column 15, lines 51-59).

6. Claims 2, 3, 5, 6, 14, 15, 17, 25, 29, 32, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mullins et al (U.S. Patent No. 6,985,912 and known hereinafter as Mullins) in view of a non-patent literature titled "An enterprise directory solution with DB2" by S.S.B. Shi, et al, IBM Systems Journal, vol. 39, No. 2, 2000 (known hereinafter as IBM System), in further view of Lee, et al (U.S. 2002/0143943, published 02 October 2002, and known hereinafter as Lee)(IDS Submission 17 April

2007) and in view of Durand et al (U.S. Patent No. 5,694,598 and known hereinafter as Durand).

As per claims 2 14, 29, and 36, the combination of Mullins and IBM Systems do not explicitly teach a method wherein: said first data format includes a logical object class format.

Durand teaches a method wherein: said first data format includes a logical object class format (i.e. *"A TO that maps to an object of class CO 610 contains a list of three elements: number, order date, and charge. A TO that maps to CO 610 must also include two references to lists of lists. The first reference points to a list of CPs 612. The second reference points to a list of OIs 614."* The preceding text clearly indicates that object of class CO contains a list of three elements: number, order date, and charge are a type of logical object class, and each of the elements contains a format type that is inherent.)(Column 6, lines 60-64).

It would have been obvious to a person of ordinary skill in the art at the time of Applicant's invention to modify the teachings of Mullins with the IBM Systems and Lee and with the further teachings of Durand to include a method wherein: said first data format includes a logical object class format with the motivation to create system for more efficient access and manipulation of data stores, systems having the flexibility and dynamic capability to attach data from a database to map as objects and having the ability to map one or more databases to various objects in real time. (Mullins, column 3, lines 45-49).

As per claims 3 and 15, the combination of Mullins and IBM Systems do not explicitly teach a method wherein said first data format is hierarchical.

Durand teaches a method wherein said first data format is hierarchical (i.e. *"FIG. 6 is a schematic diagram illustrating a typical object class hierarchy"* The preceding text clearly indicates that the first data format is that which is contained in an object class and is hierarchical.)(Figure 6; column 6, lines 45-50).

It would have been obvious to a person of ordinary skill in the art at the time of Applicant's invention to modify the teachings of Mullins with the teachings of IBM System and Lee, and with the further teachings of Durand to include a method wherein said first data format is hierarchical with the motivation to create system for more efficient access and manipulation of data stores, systems having the flexibility and dynamic capability to attach data from a database to map as objects and having the ability to map one or more databases to various objects in real time. (Mullins, column 3, lines 45-49).

As per claim 5, the combination of Mullins and IBM Systems do not explicitly teach a method wherein said one or more attributes are multi-valued.

Durand teaches a method wherein said one or more attributes are multi-valued (i.e. *"Each TO-attribute of a TO-entity is described by: (1) a name, (2) a type, and (3) a maximum size in bytes. Optionally, a TO attribute can by described by (4) a flag indicating whether the attribute can be considered as part of the identifier for the datalist in which it is contained, and (5) a coordinate slot that is used for mapping the TO from or to a multi-array data structure."* The preceding text clearly indicates that a TO-attribute contains a name, type, and maximum size value, which are all values, to illustrate that an attribute is multi-valued.)(Column 7, lines 51-57).

It would have been obvious to a person of ordinary skill in the art at the time of Applicant's invention to modify the teachings of Mullins with the teachings of IBM System and Lee, and with the further teachings of Durand to include a method wherein said one or more attributes are multi-valued with the motivation to create system for more efficient access and manipulation of data stores, systems having the flexibility and dynamic capability to attach data from a database to map as objects and having the ability to map one or more databases to various objects in real time. (Mullins, column 3, lines 45-49).

As per claims 6, 17, 25, and 32, the combination of Mullins and IBM System do not explicitly teach a method wherein said mapping catalog is customizable for any normalized relational database schema.

Durand teaches a method wherein said mapping catalog is customizable for any normalized relational database schema (i.e. *"A relational schema that maps straightforwardly to this object model could contain two entities called CUST.sub.-- ORD and ORD.sub.-- ITEM, with a relationship one-to-many from CUST.sub.-- ORD to ORD.sub.-- ITEM. Assume that the attributes of the object CO have their counterpart in the entity CUST.sub.-- ORD and that the attributes of the object OI have their counterpart in the entity ORD.sub.-- ITEM."* The preceding text clearly indicates that a normalized relational database schema is a relational schema that maps straightforwardly. In addition, Figure 8 illustrates the normalized relational database schema.)(Figure 8; column 13, lines 47-53).

It would have been obvious to a person of ordinary skill in the art at the time of Applicant's invention to modify the teachings of Mullins with the teachings of IBM System and Lee, and with the further teachings of Durand to include a method wherein said mapping catalog is customizable for any normalized relational database schema with the motivation to create system for more efficient access and manipulation of data stores, systems having the flexibility and dynamic capability to attach data from a database to map as objects and having the ability to map one or more databases to various objects in real time. (Mullins, column 3, lines 45-49).

7. Claims 4, 16, 30, and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mullins et al (U.S. Patent No. 6,985,912 and known hereinafter as Mullins) in view of a non-patent literature titled "An enterprise directory solution with DB2" by S.S.B. Shi, et al, IBM Systems Journal, vol. 39, No. 2, 2000 (known hereinafter as IBM System), in further view of Lee, et al (U.S. 2002/0143943, published 02 October 2002, and known hereinafter as Lee)(IDS Submission 17 April 2007) and in further view of Bachmann et al (U.S. Patent No. 6,085,188 and known hereinafter as Bachmann).

As per claims 4, 16, 30, and 37, the combination of Mullins and IBM Systems do not explicitly teach a method wherein said first data format uses LDAP format.

Bachmann teaches a method wherein said first data format uses LDAP format (i.e. *"As seen in FIG. 5, the LDAP naming hierarchy includes a number of entries or nodes, with each entry or node represented by a unique entry identifier (EID). Thus, for example, the root node has an EID=1. Root has two (2) children, entry GB ("Great Britain") having an EID=2, and entry US ("United States") having an EID=3. Child node US itself has two (2) children, O=IBM (with EID=4) and O=Netscape (with EID=5). The remainder of the naming directory includes several additional entries at further sublevels."* The preceding text clearly indicates that LDAP format is the EID.)(Column 5, lines 13-21).

It would have been obvious to a person of ordinary skill in the art at the time of Applicant's invention to modify the teachings of Mullins with the teachings of IBM System and Lee, and with the further teachings of Bachmann to include a method wherein said first data format uses LDAP format with the motivation to create system for more efficient access and manipulation of data stores, systems having the flexibility and dynamic capability to attach data from a database to map as objects and having the ability to map one or more databases to various objects in real time. (Mullins, column 3, lines 45-49).

8. Claims 7-9 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mullins et al (U.S. Patent No. 6,985,912 and known hereinafter as Mullins) in view of a non-patent literature titled "An enterprise directory solution with DB2" by S.S.B. Shi, et al, IBM Systems Journal, vol. 39, No. 2, 2000 (known hereinafter as IBM System), in further view of Lee, et al (U.S. 2002/0143943, published 02 October 2002, and known hereinafter as Lee)(IDS Submission 17 April 2007) and in further view of Shen et al (U.S. Patent No. 5,596,746 and known hereinafter as Shen).

As per claims 7 and 18, the combination of Mullins and IBM Systems do not explicitly teach a method wherein said mapping catalog includes a mapped column in a table in said relational database.

Shen teaches a method wherein said mapping catalog includes a mapped column in a table in said relational database (i.e. *"There can be a series of mappings for transforming the data in the ideal table meta model to data in the object meta model. Using information* *from the ideal table meta model, an intermediate object model can be generated, which is characterized by a set of more complex rules than the first mapping step. These rules are as follows: 1. Tables which have a key-reference-key-referent link are mapped as classes with a buried foreign key. 2. Columns in tables are mapped to class attributes in the class corresponding to the ideal table. Multiplicity of buried associations can only be partially ascertained, and the user must refine the object model transformed from the ideal table meta model."*)(Column 4, lines 7-19).

It would have been obvious to a person of ordinary skill in the art at the time of Applicant's invention to modify the teachings of Mullins with the teachings of IBM System and Lee, and with the further teachings of Shen to include a method wherein said mapping catalog includes a mapped column in a table in said relational database with the motivation to create system for more efficient access and manipulation of data stores, systems having the flexibility and dynamic capability to attach data from a database to map as objects and having the ability to map one or more databases to various objects in real time. (Mullins, column 3, lines 45-49).

As per claims 8 and 19, the combination of Mullins and IBM Systems do not explicitly teach a method wherein said mapping catalog includes, for a first attribute, an indication of a column in a master table in said relational database for linking to first data in another table, said first data is for said first attribute.

Shen teaches a method wherein said mapping catalog includes, for a first attribute, an indication of a column in a master table in said relational database for linking to first data in another table, said first data is for said first attribute (i.e. *"2. Columns that are members of indices in the data base schema are grouped together into column sets and referenced to the appropriate ideal table. 3. Tables that share common columns are linked by the key-*

reference-key-reference association 318 in FIG. 3. This association is used in establishing the relationships between objects in the object model." The preceding text clearly indicates that the key-reference-key-reference association is the linking of the first attribute as indicated in a column of the master table with other tables.)(Column 3, lines 37-45).

It would have been obvious to a person of ordinary skill in the art at the time of Applicant's invention to modify the teachings of Mullins with the teachings of IBM System and Lee, and with the further teachings of Shen to include a method wherein said mapping catalog includes, for a first attribute, an indication of a column in a master table in said relational database for linking to first data in another table, said first data is for said first attribute with the motivation to create system for more efficient access and manipulation of data stores, systems having the flexibility and dynamic capability to attach data from a database to map as objects and having the ability to map one or more databases to various objects in real time. (Mullins, column 3, lines 45-49).

As per claims 9 and 20, the combination of Mullins and IBM Systems do not explicitly teach a method wherein said mapping catalog includes, for a first attribute, an indication of a first column in a first table in said relational database for linking to a first column in a second table and an indication of a second column in said second table for linking to a first column in a third table, said first column in said third table is used to identify data for said first attribute.

Shen teaches a method wherein said mapping catalog includes, for a first attribute, an indication of a first column in a first table in said relational database for linking to a first column in a second table and an indication of a second column in said second table for linking to a first column in a third table, said first column in said third table is used to identify data for said first attribute (i.e. *" Rules for populating the ideal table meta model are as follows: 1. Tables in the data dictionary map to ideal tables. Table columns map to ideal table columns. Primary key, if not available from the data dictionary, is either inferred through common column names or inputted by the user. 2. Columns that are members of indices in the data base schema are grouped together into column sets and referenced to the appropriate ideal table. 3. Tables that share common columns are linked by the key-referent-key-reference association 318 in FIG. 3. This association is used in establishing the relationships between objects in the object model."*)(Column 3, lines 34-45).

It would have been obvious to a person of ordinary skill in the art at the time of Applicant's invention to modify the teachings of Mullins with the teachings of IBM System and Lee, and with the further teachings of Shen to include a method wherein said mapping catalog includes, for a first attribute, an indication of a first column in a first table in said relational database for linking to a first column in a second table and an indication of a second column in said second table for linking to a first column in a third with the motivation to create system for more efficient access and manipulation of data stores, systems having the flexibility and dynamic capability to attach data from a database to map as objects and having the ability to map one or more databases to various objects in real time. (Mullins, column 3, lines 45-49).

9. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mullins et al (U.S. Patent No. 6,985,912 and known hereinafter as Mullins) in view of a non-patent literature titled "An enterprise directory solution with DB2" by S.S.B. Shi, et al,

IBM Systems Journal, vol. 39, No. 2, 2000 (known hereinafter as IBM System), in further view of Lee, et al (U.S. 2002/0143943, published 02 October 2002, and known hereinafter as Lee)(IDS Submission 17 April 2007), in further view of Durand et al (U.S. Patent No. 5,694,598 and known hereinafter as Durand) and in further view of Bachmann et al (U.S. Patent No. 6,085,188 and known hereinafter as Bachmann).

As per claim 22, the combination of Mullins and IBM Systems do not explicitly teach a system wherein said first data format includes a hierarchical logical object class format that uses LDAP format; and said mapping catalog is customizable for any normalized relational database schema.

Durand teaches a system where said first data format includes a hierarchical logical object class format (i.e. *"FIG. 6 is a schematic diagram illustrating a typical object class hierarchy"* The preceding text clearly indicates that the first data format is that which is contained in an object class and is hierarchical.)(Figure 6; column 6, lines 45-50); and said mapping catalog is customizable for any normalized relational database schema (i.e. *"A relational schema that maps straightforwardly to this object model could contain two entities called CUST.sub.-- ORD and ORD.sub.-- ITEM, with a relationship one-to-many from CUST.sub.-- ORD to ORD.sub.-- ITEM. Assume that the attributes of the object CO have their counterpart in the entity CUST.sub.-- ORD and that the attributes of the object OI have their counterpart in the entity ORD.sub.-- ITEM."* The preceding text clearly indicates that a normalized relational database schema is a relational schema that maps straightforwardly. In addition, Figure 8 illustrates the normalized relational database schema.)(Figure 8; column 13, lines 47-53).

It would have been obvious to a person of ordinary skill in the art at the time of Applicant's invention to modify the teachings of Mullins with the teachings of IBM

System and Lee, and with the further teachings of Durand and Bachmann to include a system where said first data format includes a hierarchical logical object class format and said mapping catalog is customizable for any normalized relational database schema with the motivation to create system for more efficient access and manipulation of data stores, systems having the flexibility and dynamic capability to attach data from a database to map as objects and having the ability to map one or more databases to various objects in real time. (Mullins, column 3, lines 45-49).

Durand does not explicitly teach a system that uses LDAP format.

Bachmann teaches a system wherein said first data format uses LDAP format (i.e. *"As seen in FIG. 5, the LDAP naming hierarchy includes a number of entries or nodes, with each entry or node represented by a unique entry identifier (EID). Thus, for example, the root node has an EID=1. Root has two (2) children, entry GB ("Great Britain") having an EID=2, and entry US ("United States") having an EID=3. Child node US itself has two (2) children, O=IBM (with EID=4) and O=Netscape (with EID=5). The remainder of the naming directory includes several additional entries at further sublevels."* The preceding text clearly indicates that LDAP format is the EID.)(Column 5, lines 13-21).

It would have been obvious to a person of ordinary skill in the art at the time of Applicant's invention to modify the teachings of Mullins with the teachings of Bachmann to include a system wherein said first data format uses LDAP format with the motivation to create system for more efficient access and manipulation of data stores, systems having the flexibility and dynamic capability to attach data from a database to map as objects and having the ability to map one or more databases to various objects in real time. (Mullins, column 3, lines 45-49).

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

"A Performance Evaluation of Alternative Mapping Schemas for Storing XML Data in a Relational Database," Technical Report, INRIA, France, May 1999, pages 1-33.

"An Overview of Data Warehousing and OLAP Technology," SIGMOD Record 26(1); pages 65-74, 1997.

Contact Information

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Neveen Abel-Jalil can be reached on 571-272-4094. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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